WAHT IS CLAIMED IS

1. A communication device which can be freely inserted into and extracted from a slot of a terminal device, wherein

a part of said communication device exposed from said terminal device when inserted into said slot is applied a color according to a kind of the communication device.

2. The communication device as set forth in claim 1, comprising

a radio unit adapted to a predetermined mobile communication service and applied a color according to a kind of the mobile communication service.

3. The communication device as set forth in claim 1, comprising

a radio unit adapted to a predetermined mobile communication service and applied a color according to a kind of the mobile communication service in which part information necessary for the connection to a specific provider is stored.

4. The communication device as set forth in claim 1, said communication device being a communication device to wireless-connect terminal devices and applied

said color according a transmission rate.

5. A set of a plurality of communication devices which can be freely inserted into and extracted from a slot of a terminal device and have radio units adapted to different mobile communication services, wherein

a part of said communication device exposed from said terminal device when inserted into said slot is applied a different color for each communication device.

6. A method of conducting authentication between a communication device which can be freely inserted into and extracted from a slot of a terminal device and said terminal device, comprising the steps of:

(a) inserting a key module storing the same ID as an ID stored in the communication device into the slot to register the ID stored in the key module at the terminal device, and

(b) conducting collation between the terminal device and the communication device inserted into the slot to determine whether the ID stored in the communication device and the ID registered at the terminal device coincide with each other.

7. The authentication method as set forth in claim 6, further comprising the step of,

when the communication device is extracted from

the slot after authentication between the terminal device and the communication device is obtained, bringing the terminal device to a locked state where none of input by a user is accepted.

8. The authentication method as set forth in claim 6, further comprising the steps of:

when the communication device is extracted from the slot after authentication between the terminal device and the communication device is obtained, bringing the terminal device to a locked state where none of input by a user is accepted, and

when the communication device is inserted into the slot of the locked terminal device to obtain authentication between the terminal device and the communication device, releasing the terminal device from the locked state.

9. A method of conducting authentication between a communication device which can be freely inserted into and extracted from a slot of a terminal device and said terminal device, comprising the steps of:

(a) inserting a key module storing the same ID and authentication code as an ID and an authentication code stored in the communication device and storing a cryptographic function paired with an inverse cryptographic function stored in the communication

device into the slot to register the ID, the authentication code and the cryptographic function stored in the key module at the terminal device, and

(b) when the communication device is inserted into the slot, conducting authentication between the communication device and the terminal device, said step (b) including:

(b-1) collating the ID stored in the communication device and the ID registered at the terminal device,

(b-2) when collation of IDs succeeds, generating a random number, sending data obtained by encrypting the random number with the authentication code connected by the cryptographic function from the terminal device to the communication device and at the communication device side, restoring the authentication code and the random number by the inverse cryptographic function to collate the restored authentication code and the stored authentication code, and

(b-3) when collation of authentication codes succeeds, sending data obtained by encrypting said restored random number by the inverse cryptographic function from the communication device to the terminal device and at the terminal device, restoring the random number by the cryptographic function to collate the restored random number with said random number generated by the own terminal device.

10. The authentication method as set forth in claim 9, further comprising the step of,

when the communication device is extracted from the slot after authentication between the terminal device and the communication device is obtained, bringing the terminal device to a locked state where none of input by a user is accepted.

11. The authentication method as set forth in claim 9, further comprising the steps of:

when the communication device is extracted from the slot after authentication between the terminal device and the communication device is obtained, bringing the terminal device to a locked state where none of input by a user is accepted, and

when the communication device is inserted into the slot of the locked terminal device to obtain authentication between the terminal device and the communication device, releasing the terminal device from the locked state.

12. A set of a plurality of communication devices which can be freely inserted into and extracted from a slot of a terminal device to wireless-connect terminal devices, wherein

each communication device includes

a memory readable by said terminal device and storing a communication address of the own communication device and a communication address of other communication device of the same set.

13. The set of communication devices as set forth in claim 12, wherein

a common key for data encryption is stored in said memory of each communication device.

14. The set of communication devices as set forth in claim 12, wherein

in said memory of each communication device, a secret key of the own communication device and a public key of other communication device of the same set are stored.

15. The set of communication devices as set forth in claim 12, wherein

a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.

16. A set of a plurality of communication devices which can be freely inserted into and extracted from a slot of a terminal device to wireless-connect terminal devices, wherein

each communication device includes

a memory readable by said terminal device and storing a communication address of the own communication device and a common key for data encryption inherent to the set.

17. The set of communication devices as set forth in claim 16, wherein

a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.

18. A set of a plurality of communication devices which can be freely inserted into and extracted from a slot of a terminal device to wireless-connect terminal devices, wherein

each communication device includes

a memory readable by said terminal device and storing a communication address of the own communication

device, a public key for data encryption and a secret key for data decoding.

19. The set of communication devices as set forth in claim 18, wherein

a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.

20. A method of locally wireless-connecting a plurality of terminal devices by using a set of a plurality of communication devices which can be freely inserted into and extracted from a slot of the terminal device to wireless-connect the terminal devices and which have a memory for storing a communication address of the own communication device, comprising the steps of:

(a) allocating a communication device to each of the terminal devices to be wireless-connected,

(b) inserting each communication device into a slot of other terminal device than the allocated terminal device to register a communication address stored in the memory of the communication device at a

transmission destination list table of the terminal device into which the communication device is inserted,

(c) inserting each communication device into a slot of an allocated terminal device, and

(d) by using communication addresses of a transmission destination communication device and a transmission source communication device as a transmission destination address and a transmission source address, transmitting and receiving data between the terminal devices into which the communication devices are inserted.

21. The wireless-connection method as set forth in claim 20, wherein

in said memory of each communication device, a common key inherent to the set is stored, said common key being for use in encryption of transmission data and decoding of reception data.

22. The wireless-connection method as set forth in claim 20, wherein

into one slot of a relay device having a plurality of slots and having a function of relaying data between slots, a communication device of a first set is inserted and into other one slot, a communication device of a second set is inserted to enable communication between a terminal device into which other

communication device of the first set is inserted and a terminal device into which other communication device of the second set is inserted through said relay device.

23. The wireless-connection method as set forth in claim 20, wherein

a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.

24. The wireless-connection method as set forth in claim 20, wherein a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.

25. A method of locally wireless-connecting a plurality of terminal devices by using a set of a plurality of communication devices which can be freely inserted into and extracted from a slot of the terminal

device to wireless-connect the terminal devices and which have a memory for storing a communication address, a public key and a secret key of the own communication device, comprising the steps of:

(a) allocating a communication device to each of the terminal devices to be wireless-connected,

(b) inserting each communication device into a slot of other terminal device than the allocated terminal device to register a communication address and a public key stored in the communication device at a transmission destination list table of the terminal device into which the communication device is inserted,

(c) inserting each communication device into a slot of an allocated terminal device, and

(d) by using communication addresses of a transmission destination communication device and a transmission source communication device as a transmission destination address and a transmission source address, using a public key of the transmission destination communication device for the encryption of transmission data and using a secret key for the decoding of reception data, transmitting and receiving data between the terminal devices into which the communication devices are inserted.

26. The wireless-connection method as set forth in claim 25, wherein

a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.

27. The wireless-connection method as set forth in claim 25, wherein a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.

28. A method of locally wireless-connecting a plurality of terminal devices by using a set of a plurality of communication devices which can be freely inserted into and extracted from a slot of the terminal device to wireless-connect the terminal devices and which have a memory for storing a communication address of the own communication device, comprising the steps of:

(a) allocating a communication device to each of the terminal devices to be wireless-connected,

(b) into a slot of a specific terminal device, sequentially inserting communication devices allocated to other terminal devices to register communication addresses stored in the communication device at a transmission destination list table of said specific terminal device,

(c) inserting each communication device into a slot of an allocated terminal device,

(d) sequentially transmitting from said specific terminal device to other terminal devices, the contents of said transmission destination list table in which a communication address part of the current transmission destination communication device is replaced by the communication address stored in the communication device inserted into said specific terminal device, and each terminal device at the reception side, setting the contents of the received transmission destination list table at a transmission destination list table of the own device, and

(e) transmitting and receiving data between the terminal devices into which the communication devices are inserted by using communication addresses of a transmission destination communication device and a transmission source communication device as a transmission destination address and a transmission source address.

29. The wireless-connection method as set forth in claim 28, wherein

in said memory of each communication device, a common key inherent to the set is stored, said common key being for use in encryption of transmission data and decoding of reception data.

30. The wireless-connection method as set forth in claim 28, wherein

into one slot of a relay device having a plurality of slots and having a function of relaying data between slots, a communication device of a first set is inserted and into other one slot, a communication device of a second set is inserted to enable communication between a terminal device into which other communication device of the first set is inserted and a terminal device into which other communication device of the second set is inserted through said relay device.

31. The wireless-connection method as set forth in claim 28, wherein

a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order

address part in which part said number is set.

32. The wireless-connection method as set forth in claim 28, wherein

a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.

33. A method of locally wireless-connecting a plurality of terminal devices by using a set of a plurality of communication devices which can be freely inserted into and extracted from a slot of the terminal device to wireless-connect the terminal devices and which have a memory for storing a communication address, a public key and a secret key of the own communication device, comprising the steps of:

(a) allocating a communication device to each of the terminal devices to be wireless-connected,

(b) into a slot of a specific terminal device, sequentially inserting communication devices allotted to other terminal devices to register communication addresses and public keys stored in the communication devices at a transmission destination list table of said

specific terminal device,

(c) inserting each communication device into a slot of an allocated terminal device,

(d) sequentially transmitting from said specific terminal device to other terminal devices, the contents of said transmission destination list table in which parts of a communication address and a public key of the current transmission destination communication device are replaced by the communication address and the public key stored in the communication device inserted into said specific terminal device and at the reception side terminal device, setting the contents of the received transmission destination list table at a transmission destination list table of the own device, and

(e) transmitting and receiving data between the terminal devices into which the communication devices are inserted by using communication addresses of a transmission destination communication device and a transmission source communication device as a transmission destination address and a transmission source address, using a public key of the transmission destination communication device for encrypting transmission data and using a secret key for decoding reception data.

34. The wireless-connection method as set forth in claim 33, wherein

a part of the communication device partly projecting from the terminal device when inserted into the slot of the terminal device is assigned a number inherent to the communication device and the communication address of the communication device is composed of a high-order address part and a low-order address part in which part said number is set.